

incident angle i should be 10° or greater. In general, the angle i should be in the range of $5 - 30^\circ$, with a more preferred range of $10-20^\circ$. For removal of redeposition material from the sidewalls of the P2 pole tip structure, the incident angle i of the C_2F_6/Ar beam is chosen to be in the range of $65-80^\circ$, with a preferred range of $70-75^\circ$. Because of the good etching selectivity of Al_2O_3 over NiFe, this P2 pole tip sidewall cleaning step will not alter the P2 pole tip track width even if an aggressive overetch is applied.

In the Drawing

Please amend Figs 1-4 as shown in red on the attached page of amended drawings.

In the Claims

Please delete claims 1-7 and 12 without prejudice.

Please amend the claims by replacing the pending like numbered claims with the clean claims set forth below. A marked up version of these claims is provided in Attachment B.

- 1 ~~1~~ 8. (Once amended) A method for fabricating a magnetic head, including the steps of:
- 2 fabricating a P1 pole, a write gap layer and a P2 pole tip;
- 3 notching said P1 pole using two ion beam etching steps including:
- 4 etching portions of said write gap layer utilizing a write gap etchant ion beam that is
- 5 formed from an etchant gas including C_2F_6 and argon, wherein said etching of said write gap
- 6 layer is conducted in part with a first write gap etchant ion beam angle away from normal of
- 7 from 5° to 30° , and in part with a second write gap etchant ion beam angle away from normal of
- 8 from 65° to 85° ;
- 9 subsequently etching portions of said P1 pole using a P1 pole etchant ion beam that is
- 10 formed using argon as an etchant gas, wherein said etching of said P1 pole is conducted in part

- 11 with a first P1 pole etchant ion beam angle away from normal of from 30° to 45°, and in part
12 with a second P1 pole etchant ion beam angle away from normal of from 65° to 85°.
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1 ~~13~~⁶. (Once amended) A method for fabricating a magnetic head as described in claim ~~8~~¹
2 wherein said first write gap etchant ion beam angle is from 10° to 20° and said second write gap
3 etchant ion beam angle is from 70° to 75°.

1 ~~14~~⁷. (Once amended) A method for fabricating a magnetic head as described in claim ~~13~~⁶
2 wherein said first write gap etchant ion beam angle is approximately 10°.

1 ~~15~~⁸. (Once amended) A method for fabricating a magnetic head as described in claim ~~13~~⁶
2 wherein said C₂F₆/Ar ion beam is generated with an ion beam voltage of from 600-900 volts,
3 and an ion beam current of from 600-1200 mA.

1 ~~16~~⁹. (Once amended) A method for fabricating a magnetic head as described in claim ~~13~~⁸
2 wherein said C₂F₆/Ar ion beam voltage is in the range of 650-750 volts and said ion beam
3 current is in the range of 900-1100 mA.

1 ~~17~~¹⁰. (Once amended) A method for fabricating a magnetic head as described in claim ~~16~~⁹
2 wherein a Ni fluoride thin film layer is formed on said P2 pole tip.

1 ~~18~~¹¹. (Once amended) A method for fabricating a magnetic head, including the steps of:
2 fabricating a P1 pole, a write gap layer and a P2 pole tip;
3 notching said P1 pole in a process consisting essentially of the following two etching
4 steps:

5 etching portions of said write gap layer utilizing a write gap etchant ion beam that is
6 formed from an etchant gas including C_2F_6 and argon, wherein said C_2F_6 gas concentration range
7 is from 70% to 80%; and wherein said etching of said write gap layer is conducted in part with a
8 first write gap etchant ion beam angle away from normal of from 10° to 20° , and in part with a
9 second write gap etchant ion beam angle away from normal of from 70° to 75° ;
10 subsequently etching portions of said P1 pole using a P1 pole etchant ion beam that is
11 formed from argon as an etchant gas, wherein said etching of said P1 pole is conducted in part
12 with a first P1 pole etchant ion beam angle away from normal of from 30° to 45° , and in part
13 with a second P1 pole etchant ion beam angle away from normal of from 65° to 85° .

Please and insert the following new claims:

Q4
1 ~~10~~¹⁰ (New) A method for fabricating a magnetic head as described in claim ~~11~~⁴, wherein said
2 first write gap etchant ion beam angle is approximately 10° away from normal, and said first P1
3 pole etchant ion beam angle is approximately 30° away from normal.

Q5
1 ~~12~~¹² (New) A method for fabricating a magnetic head as described in claim ~~13~~¹¹, wherein said
2 C_2F_6 /Ar ion beam voltage is in the range of 650-750 volts and said ion beam current is in the
3 range of 900-1100 mA.

1 ~~13~~¹³ (New) A method for fabricating a magnetic head as described in claim ~~20~~¹², wherein said
2 first write gap etchant ion beam angle is approximately 10° away from normal, and said first P1
3 pole etchant ion beam angle is approximately 30° away from normal.